

- HICKSON, S. J.—'A Naturalist in North Celebes.' Murray: London, 1889.
- LIST, TH.—'Ueber die Entwicklung von Protein krystalloiden in den Kernen der Wanderzellen bei Echiniden.' Anat. Anz. xiv. pp. 185-191.
- M<sup>c</sup>INTOSH, W. C.—'The Coloration of Marine Animals.' Ann. & Mag. Nat. Hist. ser. 7, vol. vii. 1901, pp. 221-240.
- MACMUNN, C. A.—'Contributions to Animal Chromatology.—Echinoderms.' Quart. Journ. Micros. Sc. xxx. (1889). *Ibid.* Journ. Mar. Biol. Assoc. n. s., i. March 1899.
- MEISSNER, M.—'Ueber die von Herrn Marine-Stabsarzt Dr. Sander heimgebrachten Seeigel.' Sitzber. Gesell. naturf. Berlin, Nov. 1892, pp. 183-185.
- MORTESEN, TH.—'Echinoidea.' The Danish 'Ingolf' Expedition, vol. iv. pt. i. Copenhagen, 1903.
- NEUBIGIN, MARION I.—'Colour in Nature: a Study in Biology.' 8vo, xii+344 pp. London: Murray, 1898.
- SIMROTH, H.—'Zur Kenntniss der Azorenfauna.—Echinodermata.' Arch. f. Natur. Bd. i. Heft 3 (1888), pp. 231-234 (published April 1889). Berlin.

XXII.—*New and little-known Diptera Nematocera from Ceylon.* By F. W. EDWARDS.

(Published by permission of the Trustees of the British Museum.)

A SMALL collection of Diptera Nematocera recently made by Mr. J. C. F. Fryer in Ceylon contains a number of interesting forms which it seems desirable to place on record: several appear to be new to science, while others, previously known from other regions, have not till now been recorded from Ceylon. The types of the new species have been generously presented to the National Collection by Mr. Fryer. In addition to the species referred to in more detail below, the collection contains the following:—*Sciara rufithorax*, Wulp; *Leiomyia arcuata* (Brun.); *Allactoneura cincta*, Meij.; *Plecia fulvicollis*, F.; *Phlebotomus maculatus*, Ann.; *Psychoda albopicta*, Brun.; *Ochlerotatus pallidostriatus* (Theo.); *Wyeomyia greenii*, Theo.; *Pselliophora taprobanes* (Walk.); *Tipula ochripes*, Brun.; *Pachyrhina pleurinotata*, Brun.; *Pachyrhina?* *javensis*, Dol.; *Libnotes pæciloptera*, O.-S.; *Teucholabis fenestrata*, O.-S.; *Teucholabis (Gymnastes) cyanea*, Edw.; *Conosia irrorata*, Wied.; *Ericera crystalloptera*, O.-S.; *E. tuberculifera*, Edw.; *E. ctenophoroides*, Edw.; *E. albonotata*, Lw.

## Mycetophilidæ.

1. *Macrocera fryeri*, sp. n.

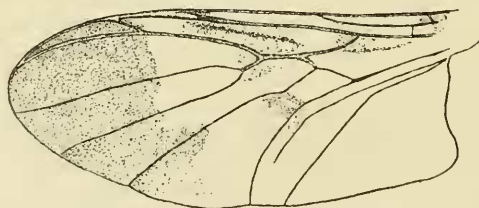
Length of body 3-4 mm., of antenna 12-16 mm.

♂. Brownish yellow; wings not hairy, with dark markings.

*Head* yellowish, more brownish on the vertex; antennæ with the first three joints yellowish, the remainder dark brown; palpi brownish. *Thorax* yellowish brown; a dark brown vertical stripe on the pleuræ, extending on to the sides of the mesonotum, situated between the first two pairs of legs. *Abdomen* brownish yellow, the middle segments indistinctly darker at the base. *Legs* yellowish brown, the tarsi somewhat darker. *Wings* bare; apical third occupied by a large dark brown patch, the anterior edge of which is rather irregular and has a large angular projection on  $Cu_1$ ; another brown patch towards the costa near the middle of the wing, filling the greater portion of the cell  $R_1$ ; a small one near costa, more towards the base, including origin of  $Rs$ , and a brown spot in the cell  $Cu_1$  a little way from the base;  $Sc$  reaching costa opposite origin of  $Rs$ . Halteres yellowish, knobs dark.

Peradeniya, ix. 1911; 4 ♂.

The strongly darkened apical third of the wing plainly marks this species off from the seven described by Brunetti from the Orient.



*Macrocera fryeri*, sp. n. Wing,  $\times 13$ .

2. *Leiomylia maculicoxa* (Enderlein).

*Leia maculicoxa*, End. Trans. Linn. Soc., Zool. xiv. p. 69 (1910).

*Rhymosia fascipes*, Brun. Fauna Brit. Ind. p. 106 (1912).

Peradeniya, x. 1912; 1 ♂.

There is no doubt as to the above synonymy, since the genitalia of the Ceylon and Seychelles specimens appear

identical and the coloration is practically the same, the only difference being that the Seychelles specimens have a more or less distinct dark fascia near the apex of the wing, which in the Ceylon specimens is so faint as to be practically absent. The lateral ocelli are absolutely contiguous with the eye-margins and the subcosta is very faint in its apical portion, not distinctly reaching the costa. These two peculiarities no doubt led Brunetti to place the species in *Rhymosia*, but the general appearance and (apart from the evanescent subcosta) the venation are those of a typical *Leiomyia*. Precisely the same peculiarities are exhibited by *Leia seychellensis*, End., and by some undescribed African species which I have examined. Brunetti's *Rhymosia annulicornis* and *R. humeralis* are doubtless also species of *Leiomyia*. *Leiomyia*, Rond. (emended form of *Lejomya*, Rond.), is the name which should be used for *Glaphyroptera*, Winn. *Leia*, Mg., is wrongly applied to it. Since Winnertz was the first person to *divide* Meigen's *Leia*, by the rules of the Zoological Congress his interpretation must be followed. Curtis designated a type of *Leia* which Winnertz did not accept, and Rondani renamed the genus, thinking the original name was preoccupied; but these facts are altogether irrelevant.

#### Chironomidæ.

3. *Ceratopogon* (s. str.) *jacobsoni*, Meij. Tijd. v. Ent. l. p. 212 (1907).

Peradeniya, i. 1912. "Attracted by alcohol." 7 ♀.

In all but one of these specimens the postnotum is blackish; in the remaining one, as (presumably) in the Javanese specimens, it is yellowish. The posterior branch of the cubitus ( $Cu_2$ ) is oblique outwardly, not inwardly as in de Meijere's figure. Nevertheless, I have little doubt that *C. jacobsoni* is the species before me.

4. *Ceratopogon* (s. str.) *hirtipes*, Meij. Tijd. v. Ent. l. p. 209 (1907).

Peradeniya, 17. xi. 1911, 4 ♀; i. 1912, 1 ♀. "17. xi. 1911. Two larvæ of *Papilio clytia* found in gardens; each was being attacked (sucked) by a small fly, apparently a *Ceratopogon*?—J. C. F. Fryer."

The dark ring on the hind femora reaches almost to the tip, leaving only the extreme knee-tip bare. In this species, as in the preceding, the eyes of the female are contiguous. Both species have till now been recorded only from Java.

5. *Macropeza javanensis*, Kieff. Mem. Ind. Mus. ii. p. 210 (1910).

*Macropeza gibbosa*, Meij. (nec Wied.) Tijd. v. Ent. l. (1907).

Peradeniya, ii. 1912; 1 ♀.

This species is very much like the following; it differs in the dull brownish-black (not shining black) thorax, which is only very slightly produced forwards and does not end in a sharp point; also in the yellow (instead of black) femora and tibiæ. By the last-named character it also differs from *M. albitarsis*, Mg.

6. *Macropeza gibbosa*, Wied. Analecta Ent. p. 10 (1824).

*Calyptopogon albitarsis*, Kieff. Mem. Ind. Mus. ii. p. 209 (1910).

Peradeniya, x. 1911—ii. 1912; 4 ♀.

Wiedemann's brief description of *M. gibbosa* notes all the more salient features of Kieffer's *C. albitarsis*, and the two names may be safely considered to apply to the same species. The genera *Macropeza* and *Calyptopogon* are so similar that the propriety of their separation seems open to question.

#### Tipulidæ.

7. *Tipula gracillima*, Brun. Fauna Brit. Ind. p. 302 (1912).

Peradeniya, vi. 1912; 1 ♀.

Brunetti has apparently overlooked the fact that the white rings on the femora are present on the two anterior pairs only.

8. *Pselliophora? elongata*, sp. n.

♀. Length of body 34 mm., of wing 23 mm.

Brown; wings clouded; abdomen with whitish lateral spots.

*Head* dark reddish brown, palpi and antennæ blackish brown towards the apex. Antennæ 13-jointed, a little shorter than the thorax, sparsely hairy; second joint extremely short, flagellar joints about equal in length, the first six each with two prominent rounded lobes on the underside, becoming less marked in the apical joints. *Thorax* dark brown; mesonotum in front of the suture with four lighter reddish-brown stripes, the two middle ones closely approximated and reaching the front margin, the lateral ones only about half as long; behind the suture on each side are two reddish-brown spots; scutellum almost round, reddish brown; postnotum reddish brown in the middle, dark brown at the sides;

pleuræ with some small pale patches. *Abdomen* long and tapering, dark brown, the first four or five segments with ill-defined reddish-brown patches above, while the first seven segments have almost triangular creamy-white lateral spots, situated at the base of each segment, except those on the second segment, which are placed near the middle. Ovipositor dark brown. *Legs* short and stout, dark brownish, the whole tarsi not much longer than the tibiæ. *Wings* very broad (7.5 mm.), strongly infuscated, the veins narrowly bordered with blackish; costal cell yellowish brown; light patches as follows: (1) in the upper basal cell (R) just before origin of Rs; (2) a larger patch in marginal and upper basal cells (R<sub>1</sub> and R) a little beyond origin of Rs; (3) a large patch just beyond the stigma, extending from costa across cells R<sub>2</sub>, R<sub>3</sub>, and R<sub>4+5</sub>; (4) a large but ill-defined patch towards the apices of cells M and Cu; (5) a patch near base of cells Cu and An. *Halteres* yellowish.

Hakgala, 4500 feet, v. 1911; 1 ♀.

The generic position of this remarkable insect is somewhat doubtful. In its more sober colouring and in its long tapering abdomen it differs conspicuously from the known species of *Pselliophora*, but, as from the structure of the thorax and legs it evidently belongs to the *Ctenophora* group, and as the restricted genus *Ctenophora* is not definitely known to occur in the Orient, I have placed it provisionally in *Pselliophora*.

9. *Libnotes thwaitesiana*, Westw. Trans. Ent. Soc. p. 505 (1876).

*Libnotes rufa*, Meij. Tijd. v. Ent. liv. p. 39 (1911).

Peradeniya, x. and xi. 1911; 2 ♀.

Westwood described the head as being black, but this doubtless referred to the eyes, which are in striking contrast with the red-brown body. *L. rufa* was described from a small specimen; all the species of this genus seem to vary greatly in size. Westwood's type was from Ceylon.

10. *Styringomyia ceylonica*, Brun. (nec Edw.) Fauna Brit. Ind. p. 461 (1912).

Peradeniya, xii. 1911; 1 ♂, 1 ♀.

The male hypopygium figured by Brunetti is quite different from that of *S. ceylonica*, Edw., and resembles that of *S. didyma*, Grimshaw (Brunetti's figure represents a ventral, not a dorsal view). I hope to issue a revision of the genus

*Styngomyia* shortly, and so defer consideration of Brunetti's species until then.

11. *Trentepohlia speiseri*, sp. n.

*Mongoma exornata*, Speiser (nec Bergr.), Berl. ent. Zeit. lii. p. 135 (1907).

Length of body 5 mm.

♂ ♀. *Head*, including antennæ and palpi, dark brownish. *Thorax* dark reddish brown. *Abdomen* blackish brown. *Legs* light yellowish, the tips of the tarsi a little darker. Front and middle femora with about eight short bristles near the base beneath. *Wings* with a brown apex, much darker towards the costa, but leaving a small clear space in the cell  $R_2$  (first submarginal); a large brown patch in the middle of the wing, extending from the base of Rs to the apex of Sc; cross-veins and veins  $R_{4+5}$  and Cu dark-margined.  $Cu_1$  joining M slightly (♀) or considerably (♂) before its fork;  $Cu_2$  joining An near its tip. *Halteres* yellowish.

Peradeniya, ii. 1912; 1 ♂ (type; wing figured). I have also seen the species from the following African localities:—Entebbe, Uganda (Capt. E. D. W. Greig, I.M.S.), 1 ♂; Stanleyville, Belgian Congo, 1. ix. 1904, 1 ♀; Bo, Sierra Leone (Dr. H. E. Arbuckle, W.A.M.S.), 1 ♀; Gold Coast (Willoughby P. Lowe), 2 ♀. The African specimens are rather larger and have the tips of the femora slightly darkened.

This species closely resembles *T. exornata*, Bergr., but the presence of a well-marked brown patch in the middle of the costa seems to indicate that it is really distinct.



*Trentepohlia speiseri*, sp. n. Wing, × 13.

12. *Epiphragma kempfi*, Brun. Rec. Ind. Mus. viii. p. 155 (1913).

Hakgala, 4500 feet, v. 1911; 1 ♂.

The wing-markings of this specimen do not quite agree with Brunetti's figure, but it is certainly only a variation of his species, and may be conspecific with *E. signata*, Meij.